Page

7-1 Disposal of Highway Generated Waste 7-1
7-1.2 Catch Basin Maintenance 7-1
7-1.3 Street Sweepings 7-5

7-2 Maintenance of Stormwater Facilities 7-6
7-2.1 Channel Conveyance 7-7
7-2.2 Oil/Water Separators 7-8

7-3 Snow and Ice Control Operations 7-8
7-3.1 Deicing Materials and Roadway Abrasives 7-8
7-3.2 Chemical Deicers 7-9
7-3.3 Roadway Abrasives 7-9
7-3.4 Storage 7-10

7-4 Water Quality Protection During Bridge Maintenance 7-10
7-4.1 Minimizing Water Quality Impacts 7-10
7-4.2 Painting Management Practices 7-11

7-5 References 7-12

7C:P3:HRM7

7-1 Disposal of Highway Generated Waste

The Washington State Department of Transportation (WSDOT) advocates effective, consistent, and environmentally responsible maintenance of the state highway system. Maintenance programs strive to protect the road user, public investment, and environmental quality that enhances user safety in a cost-effective manner. Roadsides are to be maintained as nearly as possible in the condition to which they were constructed or subsequently developed, and in a manner that makes a contribution to the safety, convenience, and pleasure of the public and the preservation and protection of the roadway itself. All maintenance activities are applicable, subject to the availability of funds.

The disposal of vactor wastes, street sweepings, and other highway maintenance generated waste solids has become a problem. Some of the solid wastes exceed contamination threshold values that allow for disposal at lined municipal landfills or for use in maintenance activities. Most highway wastes have contamination limited to petroleum products and may be treated with bio-remediation by WSDOT personnel.

WSDOT intends to pursue the development of facilities to properly treat and, where possible, re-use contaminated wastes after treatment. These facilities could be funded in cooperation with local jurisdictions and the operating costs proportionally shared. Bio-remediation of the contaminated wastes currently is the most practicable and cost-effective treatment method.

7-1.2 Catch Basin Maintenance

7-1.2.1 Pumping

Schedule and Frequency. Inlets, catch basins, and manholes are to be periodically inspected and cleaned out using a vacuum truck. WSDOT maintenance staff should conduct inspections during storms to ensure that inlet grates are not becoming clogged with water-borne debris.

Catch basins are inspected regularly by WSDOT maintenance staff and cleaned to ensure adequate function as needed. At a minimum, all catch basins are pumped annually. Emphasis is on cleaning catch basins in urban traffic areas after the first storm at the beginning of autumn with a rainfall volume greater than 1 inch. This practice will remove much of the pollutant load deposited during the dry months.

If upon inspection the wastes in the catch basins appear excessively oily, of foul odor, or show a fluorescent anti-freeze coloration, illicit dumping may be the cause and the catch basin should not be pumped. This waste could contaminate the truck and create disposal problems. The waste in the catch basin should be sampled and analyzed to determine appropriate disposal. Contact either regional environmental or Olympia Service Center maintenance staff to initiate actions to characterize the waste.

7-1.2.2 Equipment

The removal of catch basin wastes is done with a vactor truck. No manual cleaning occurs. The vactor truck currently used is an 88 Model International Vactor f2575 W/F/Eductor or equivalent.

7-1.2.3 Decant Water

Decant water is defined as water which results from flushing solids out of a catch basin. Minimal data exists for the pollutant quality of decant water from highway maintenance activities. A recent study of urban and rural roadway maintenance activities (Herrera Environmental Consultants, 1991) indicates decant water has the potential to carry metals, solids, toluene, xylenes, and volatile and semi-volatile compounds. Data suggests decant water has greater potential for pollutant load when carrying large amounts of suspended solids (Serdar, 1992).

The practical method of handling the water associated with catch basin sludge has been to decant the water directly back into the catch basin. Vactor trucks must decant water from the storage tank periodically to allow more room for sediments storage. Vactor trucks typically decant water two to three times a day depending upon on the weather, truck capacity, and the system being cleaned. Storm drains located in nonsensitive areas are selected for discharge of decant water. Frequent decanting can be necessary to prevent excessive weight and load shifting problems. The vehicle operator determines when decanting is necessary.

Opportunities for safe disposal of the liquid fraction of vactor waste, without extensive testing, are limited to approved decant stations and sanitary sewers. WSDOT District 1 has made use of decant stations for the disposal of decant water, where practicable, in the Seattle metropolitan area. Three decant stations in Bellevue allow access to WSDOT. Users of the stations maintain a record of all discharges as required by the municipality.

Permission to discharge decant water to sanitary sewer systems varies widely among municipalities and sewer districts. There is little consistency among sanitary sewer authorities in the Puget Sound basin to accept highway generated catch basin wastes. District maintenance staff will utilize available options for disposal of decant liquid to decant stations.

WSDOT is currently exploring the development of vactor waste decant and sludge treatment facilities, similar to the facility located in Thurston County. With legislative appropriation of specifically designated funds, WSDOT is developing decant and solids treatment facilities in conjunction with other jurisdictions.

7-1.2.4 Catch Basin Solids

Sufficient data exists, both with WSDOT catch basin solids and and other municipalities, to be sufficiently able to characterize the material. While the pollutant content of vactor waste varies widely depending upon a variety of factors, it can be generally characterized as being contaminated with petroleum and some heavy metals.

Evolving environmental regulations and limited waste disposal options have caused WSDOT to initiate a waste characterization program in the fall of 1993, for cost effective and appropriate disposal options. The emphasis of this program is to utilize clean wastes within WSDOT maintenance activities, and to dispose properly of those wastes that cannot be re-used.

Until more practicable options exist, vactor wastes will be disposed of in a two-step process: interim and final disposal. Interim disposal will allow for characterization of the waste to provide the data necessary to determine proper final disposal. For interim disposal, the vactor sludge is placed at available district pit sites at least 100 feet from property boundaries, surface water boundaries, or water supply wells. After decant of the liquid fraction, the vactor sludge and wastes are placed on an impermeable surface. The area is bermed with straw bales or dirt, and the waste piles covered with 3 mil plastic or similar impervious material. This cover will prevent water infiltration into the vactor sludge and introduction of the sludge into runoff. The waste piles should be limited in size to 100 cubic yards.

Care must be taken to segregate the dirtiest wastes from those wastes that appear cleaner. Currently, dirtier wastes are characterized by visual observations of an oily sheen or detection of foul or chemical odors. Under no circumstances should vactor wastes be mixed with street sweepings or ditch cleaning spoils. Within the currently funded vactor characterization program, WSDOT will explore the possibility of using field test kits to determine the presence of petroleum hydrocarbons and polyaromatic hydrocarbons (PAHs) for waste segregation purposes.

An initial characterization program will determine baseline data for disposal of all highway generated waste solids. As noted above, current practice involves determinations from the sight and smell of the wastes, using Department of Ecology published guidelines, and possible use of field test kits for waste segregation and disposal requirements. Periodic samples will be processed by an analytical laboratory for confirmation of the accuracy of field test kits. This characterization program will consist of sampling three representative locations within a 100 cubic yard pile of catch basin sludge. All samples will be processed by an analytical laboratory certified by the Department of Ecology, and tested for the following methods:

Test	Parameter
EPA Method 6010	Total Metals — arsenic, barium, cadmium, chromium, lead, mercury, nickel, selenium, silver, copper, zinc
Toxic Characteristic Leaching Procedure (TCP)	Metals
EPA WTPH-HCID	Total Petroleum Hydrocarbons (TPH)
EPA WTPH-G	To quantify gasoline contamination
EPA WTPH-D	To quantify diesel contamination
EPA WTPH-418.1 (Modified)	For heavy fuel hydrocarbons
EPA Method 8020	Benzene-toluene-ethyl benzene-xylene (BTEX)

Final disposal options for petroleum contaminated soils will be based on contaminant concentrations and their appropriate end uses. Under the requirements of the Solid Waste Management Act (Chapter 70.95 RCW) and the Model Toxics Control Act (MTCA — Chapter 70.105D RCW), highest priority shall be given to recycling, reuse, and permanent solutions rather than landfill disposal.

Method A of the MTCA Cleanup Regulation (Chapter 173-340 WAC) will be used to determine the cleanup levels of petroleum contaminated soils. Vactor solids contaminated with pollutants other than petroleum must also meet the cleanup standards for those constituents (e.g., metals, solvents, etc.) or be taken to appropriate approved disposal facilities.

Vactor wastes with the single limiting factor of petroleum hydrocarbon contamination will be bio-remediated at a WSDOT-approved pit site. Detoxification is an acceptable technology as per the Cleanup Regulation (WAC 173-340-360). Vactor wastes requiring bio-remediation will follow current WSDOT practices to accomplish the treatment.

Treated soils will be classified and handled in the following three ways:

Class 1 Soils — These soils contain residual concentrations of petroleum contaminants at or below analytical detection limits. They are considered clean and can be used as fill for any project.

Class 2 Soils — These soils contain detectable levels of petroleum contaminants below the Cleanup Regulation Method A cleanup standard — 100 parts per million of TPH. Appropriate uses shall include fill or other uses that will not cause a threat to human or environmental health.

Class 3 Soils — These are soils with high levels of heavy hydrocarbons that may not meet cleanup standards even after treatment. Soils receiving adequate treatment should be able to meet the cleanup levels for light petroleum fractions. Those soils that cannot attain cleanup standards should be used at the original site or disposed of in an existing, permitted municipal landfill.

7-1.3 Street Sweepings

Various studies debate the effectiveness of street sweeping for removal of pollutants from impervious surfaces. Most studies have focused on nonhighway applications of street sweeping programs for reduction of pollutants.

The Department of Ecology *Stormwater Management Manual for the Puget Sound Basin* (SMMPSB) states: "Street sweeping is a common maintenance method in most urban areas, but is seldom thought of a means to control pollutants." Nationally, some study results document or indicate that street sweeping can be effective in removing pollutants. But, the results of street sweeping in the Puget Sound basin seem to be less than certain. It appears that a combination of low intensity rainfall, which fails to clear roads of all dirt and debris, and the fact that pollutants adsorb onto silt and clay sized particles, results in low effectiveness of street sweeping for pollutant removal (SMMPSB, 1992, p. IV-4-27).

The National Urban Runoff Program (NURP) found street sweeping generally ineffective for controlling pollutants in urban runoff and minimal data exists for the effectiveness of sweeping highways. NURP studies indicate that sweeping just prior to the rainy season could reduce some pollution in runoff. Studies demonstrating the effectiveness of street sweeping as a mechanism for pollutant reduction have centered on parking lots and urban streets, not highway settings.

The performance of a street cleaning program depends on the condition of the street surface, the particle size distribution of pollutants, the amount of pollutants present initially, the number of passes per treatment, and the interval between treatments.

7-1.3.1 Frequency

Sweeping operations should be scheduled to prevent the accumulation of leaves, paper, or other debris that will clog the highway drainage system. Debris accumulation may require sweeping to occur as frequently as twice a month. Currently, scheduling is dictated by debris accumulation.

7-1.3.2 Equipment

Two types of street sweepers are available for removal of solids from highway surfaces. The commonly used design is a mechanical street cleaner that combines a rotating gutter broom with a large cylindrical broom to carry the material onto a conveyor belt and into a hopper.

The vacuum assisted sweepers, found to potentially remove more fine particles from the impervious surface, are impracticable due to their slow speed in highway maintenance operations.

Operators will be trained to attain maximum sweeper performance such that sweeper speed, brush adjustment and rotation rate, sweeping pattern, maneuvering around parked vehicles, interim storage and disposal methods result in optimal particulate removal.

7-1.3.3 Disposal

Each street sweeping pile should be limited in size to 100 cubic yards. Care will be taken to segregate the dirtiest wastes from those wastes that appear cleaner. Dirty wastes are characterized by oily sheen, foul odor, or those sweepings from areas of known elevated pollutant loads. Under no circumstances should street sweepings be mixed with vactor waste.

All street sweeping piles must be placed on an impermeable surface. The area must be bermed with straw bales or dirt and the waste piles covered. The cover is to prevent water infiltration into the street sweeping pile and mixing with runoff.

Sufficient data exists to characterize the pollutant load of street sweepings, WSDOT intends to continue sampling sweeping piles to verify the average pollutant concentrations in the 1995-97 biennium. Periodic sampling will occur to confirm consistency in disposal practices after completion of the waste characterization program.

Initial testing will consist of sampling three representative locations within a 100 cubic yard pile of street sweeping debris. Samples will be processed for the same parameters as vactor sludge piles.

WSDOT is currently exploring the option of re-use of uncontaminated street sweepings. The intent is to explore screening of the sweepings for removal of the larger debris and garbage. After removal of the large debris and smaller (< 200) particle fraction, a portion of the remaining material could be re-used for the originally intended use, i.e., road abrasive.

Final disposal options for contaminated sweepings will be based on contaminant concentrations and their appropriate end uses. Under the requirements of the Solid Waste Management and Model Toxics Control Acts, highest priority will be given to recycling, reuse, and permanent solutions rather than landfill disposal.

Method A of the cleanup regulation shall be used to determine the cleanup levels of petroleum contaminated sweepings. Contaminants other than petroleum must also meet the cleanup standards for those constituents (e.g., metals, solvents, etc.) or be taken to appropriate approved disposal facilities. Street sweeping wastes with the single limiting factor of petroleum hydrocarbon contamination will be remediated (land farmed) at an approved WSDOT pit site and re-used in maintenance activities. Sweepings requiring bio-remediation will follow current WSDOT practices to accomplish this treatment.

7-2 Maintenance of Stormwater Facilities

Drainage facilities are to be maintained and preserved as nearly as possible in the condition and at the capacity for which they were originally designed and constructed. Maintenance practices for drainage channels and oil/water separators are found in this chapter. Maintenance practices for erosion and sediment control best management practices (BMPs), water quality and quantity BMPs, and construction site pollution control BMPs, are found in Chapter 8.

Maintenance personnel must be continually alert to see that all natural water course channels crossing the right of way remain open.

7-2.1 Channel Conveyance

Maintenance of ditches has focused historically on the hydraulic performance of drainage facilities. In some instances, vegetation within the ditches may provide an opportunity for water quality enhancement but could interfere with the hydraulic capacity. Cleaning of the ditches resulting in exposed soils may result in increased sediment load and the subsequent downstream impact.

The preservation of the hydraulic capacity of ditches must be recognized in the maintenance approach. The following recommendations are intended to augment the existing WSDOT ditch maintenance program.

Ditches should be inspected by WSDOT maintenance staff twice each year to identify sediment accumulations, localized erosion and other problems. Ditches should be cleaned on an annual basis or more frequently if needed. Ditches and gutters must be kept free of rubbish and debris and all cracks and breaks must be repaired as required.

Water should not pond in ditches and a ditch should never be deeper than the culvert flow lines, unless the ditch is designed for storage. Vegetation in ditches often prevents erosion and cleanses runoff waters. Vegetation should be removed only when flow is blocked or excess sediments have accumulated. Emphasis shall be placed on performing maintenance in late spring to enable the vegetation the opportunity to reestablished by the next wet season thereby minimizing erosion of the ditch as well as making the ditch effective as a biofilter.

Open ditches will be routinely checked and maintained to the line, grade, depth, and cross section to which they were constructed. Where practicable, ditches should be modified to produce a relatively flat, shallow ditch to enhance motorist safety.

Diversion ditches on top of cut slopes that are constructed to prevent slope erosion by intercepting surface drainage must be maintained to retain their diversion shape and capacity.

Surplus material derived from regular maintenance of ditch cleaning can often be used for widening, as long as the material placed into the adjacent portions of the highway or disposal areas and does not obstruct or impair other roadside drainage areas. Care must be taken to avoid causing erosion problems or loose unstable fills.

Ditch cleanings are not to be bladed across roadway surfaces. Dirt and debris remaining on the pavement after the ditch cleaning operations will be swept from the pavement.

Culverts will be inspected on a regular basis for scour around the inlet and outlet, and repaired as necessary. Priority will be given to those culverts located in perennial or salmonid-bearing streams, and culverts near streams in areas of high sediments load, such as those near construction activities.

7-2.2 Oil/Water Separators

The SMMPSB recognizes the limited application of oil/water separators for stormwater treatment. Such mechanisms are not suitable for treatment of the "waste water" characteristics of highway runoff. The SMMPSB recommends oil/water separators be used for spill control as their primary application.

Oil/water separators should be inspected annually. Oil/water separators should be cleaned to prevent accumulated oil from escaping during storms. Emphasis will be placed on inspection of and cleaning as needed by Autumn to remove material that has accumulated during the dry season. Currently, oil/water separators are cleaned in conjunction with catch basins.

All removal of oil/water separator wastes will be done with a vactor truck. No manual cleaning will occur. Care will be taken to prevent mixing of catch basin wastes (potentially the more contaminated) and the liquid waste from the oil/water separators. The vactor truck used will be an 88 Model International Vactor f2575 W/F/Eductor or equivalent.

Minimal options exist for disposal of the liquid fraction of the waste from oil/water separators. Where available and permissible, the liquid waste shall be disposed of at decant stations or municipal sanitary sewer systems. WSDOT district environmental or headquarters maintenance staff will explore, case by case, the need for alternative disposal options with waste oil vendors. All solid material produced from oil/water separator maintenance will be temporarily stored for characterization, and disposal options similar to the methods prescribed for vactor solids.

7-3 Snow and Ice Control Operations

It is the intent and practice of WSDOT to remove snow from regularly traveled state routes as the snow accumulates. The removal of snow and ice from the roadway takes precedence over non-emergency work. The roadway is to be plowed and sanded if necessary, to ensure the safety of the traveling public. Priorities and service levels are determined by usage and average daily traffic levels. Greater priority is given to the Interstate System and those sections of highway having an average daily traffic of 10,000 or more.

Snow control operations consist of removing accumulated snow from the traveled way, shoulders, widened areas and public highway approaches within the right-of-way. When accumulated snow becomes compact and removal is not possible with available equipment, the accumulation shall be treated as an ice control operation.

7-3.1 Deicing Materials and Road Abrasives

Ice control operations consist of application of abrasives and/or chemicals to ice or compact snow. WSDOT emphasizes efficient use of deicing products and traction abrasives through effective plowing and spreading equipment, and the use of weather and roadway monitoring systems (e.g., pavement sensors). The "anti-icing" operation focuses the application of deicing chemicals at the beginning of the snow fall, preventing ice or snow from bonding to the roadway surface.

Historically the corrosive effects of chloride deicers and traction abrasives on the highway infrastructure has directed research efforts. Arguments emphasize evaluating the real cost of chloride deicers by including the destructive effect on steel bridges and concrete roadways.

Research of the environmental impacts from winter ice control activities includes evaluating damage to roadside vegetation from excessive and improper salt use, deposition of traction sand on roadside aquatic environments, and estimating the contribution of abrasives to non-attainment thresholds for air quality standards.

7-3.2 Chemical Deicers

Both solid and liquid chemical deicers are used for deicing in a multitude of settings. The use of deicing chemicals containing chlorides, such as common salt and calcium chloride, is discouraged. Emphasis is placed on selection of alternative deicers that are less corrosive and provide an effective level of service over the increased cost. The regional Administrator approves the use of chlorides only in those areas where the detrimental effects do not outweigh the benefits of such applications.

When removal of compact snow and ice is not possible, road abrasives and deicers are applied at bridges, curves, intersections, railroad crossings, steep grades and isolated shaded areas. Deicers facilitate the effectiveness of abrasives, reducing the amount necessary to enable adequate traction. Deicers are also applied to abrasives stockpiles keeping the pile workable in freezing weather and to help set the sand into the ice surface.

In selected areas WSDOT is exploring the use of liquid deicers. Liquids deicers (a calcium magnesium product) are used as pre-treatment on paved areas and on bridges where abrasives provide a negative effect. Liquid deicers properly applied prior to snowfall, inhibits snow or snow and ice from bonding to the pavement or forming on the pavement as in the case of black ice.

7-3.3 Roadway Abrasives

Road abrasives must be heavy enough to stay in place, small enough not to damage vehicle windshields or paint, and clean enough so as not to pollute water bodies. The following is the specification for that abrasive:

Roadway Abrasive Specification

$^3/_8$ - #10	
$^1/_2$ Square	100%
$^3/_8$ Square	90-100%
$^1/_4$ Square	50-75%
U.S. #10	0-10%
U.S. #200	0-1.0%

At least 75 percent of the material shall have one fractured face. The finished product shall be clean, uniform in quality, and free from wood, bark, roots and other deleterious material.

If evidence supports the need to address potential discharge of suspended solids into an adjacent water body sensitive to suspended sediments, the following practices implemented may reduce the sediment contribution to the drainage system:

- Increased scheduling of roadside sweeping.
- Increased maintenance of catch basins/drainage systems.
- Emphasis will be placed on reduction/elimination of the use of high volume water flushing to roadsides adjacent to water bodies which are sensitive to the temporary loading of suspended solids. Flushing in conjunction with sweeping may be required in areas of air quality concerns. Regional or Olympia Service Center Environmental staff can be contacted for additional guidance.

7-3.4 Storage

If the deicers are not shipped in water tight containers, they are stored undercover and on pallets until they are mixed with the abrasive. Mixing ratios can be from 30:1 up to 1:1. In most parts of the state, a ratio of 20:1 and lighter can be stored in the same fashion as the abrasive, and is considered the proper ratio for keeping the stockpile workable. Heavier ratios are sometimes kept in smaller amounts for problem areas like stop sign locations, hills or bad curves. These stockpiles will be covered or protected with berms if there are signs of leaching.

Each stockpile should be located on a smooth, level surface with a maximum exposure to the sunlight. If the stormwater runoff is a problem, the stockpile site may need to be covered or a berm built around the perimeter to collect the drainage.

7-4 Water Quality Protection During Bridge Maintenance

Maintenance of steel bridges can have an adverse impact on the surrounding environment if certain practices are not employed. During bridge cleaning or preparation of bridge members for painting, careless pressure washing can remove pollutants in concentrations sufficient to exceed water quality standards. Abrasive blasting can be a hazard to workers and the environment due to dust from the fracturing of blast material, and toxic compounds in the paint (e.g., lead and chromium) and sometimes in the blast material itself. If the bridge to be painted is located over a water body, paint and other debris should be kept out of the water to avoid pollution. The blast debris and paint residue needs to be properly contained during the blasting operation, and once contained, this waste material could be designated hazardous and proper disposal be required.

WSDOT Guidelines for Bridge Painting Practices (in draft form as of this writing) address bridge painting impacts in a comprehensive fashion. This section of the manual will only address the impacts of bridge maintenance on water quality.

7-4.1 Minimizing Water Quality Impacts

When pressure washing is used to clean a bridge, pollutants that have settled on bridge members will be washed off with the water. These pollutants can include oil and grease, heavy metals, sediment, bird guano, and deicing chemicals. Depending on several factors, this wash water could adversely affect the water quality of the receiving water body. These factors include the size of the bridge,

average daily traffic, amount of time since last cleaning, type of receiving water body (marine water, lake, watercourse, etc.), and amount of flow if a watercourse. There should not be a problem with marine waters and rivers because of sufficient dilution, but there may be problems if the receiving water body is a lake or small watercourse. A short-term modification of water quality standards, and/or containment of the washing operation, may be necessary. The Olympia Service Center Water Quality Unit will be contacted for more information. Chlorine bleach will not be used in the pressure washing operation.

When abrasive blasting takes place over a body of water, most of the paint debris sinks immediately upon landing on the water surface. The smaller particles can float for awhile and form a scum on the water surface. All the particles eventually sink, and lead compounds have extremely low water solubility. Mostly due to insolubility of the encapsulated lead compound, there is little information indicating long-term detrimental effects on aquatic biology by the lead particles deposited on the bottom of a water body. Research conducted in British Columbia indicated that juvenile salmonids may ingest paint flakes, which are then dissolved by acids in the fish gut. Some Washington State fish biologists disagree with these research findings. An additional water quality concern is paint getting into water as a result of dripping or spilling during the painting operation. State law prohibits the introduction of pollutants into waters of the state.

WSDOT is changing the contract requirements for environmental protection during bridge painting operations. When implemented, these requirements will address the need for containment during bridge painting projects to prevent water pollution from abrasive blasting and painting. The above-mentioned guidelines will be the mechanism by which containment structures are incorporated into a project.

7-4.2 Painting Management Practices

Bridge painting projects should incorporate the following good painting management practices that address the storage, mixing, moving, and use of paint:

1. Paint spillage and dripping shall be prevented from entering state waters.
2. The contractor will have a plan to remove paint accidentally spilled into state waters. The contractor will have all equipment and materials required to implement the cleanup available at the site at all times work is being performed.
3. Paints will be stored and mixed in a secure, contained location off the bridge to eliminate potential spills into water.
4. Equipment will not be cleaned in state waters, nor will cleaning runoff be allowed to enter state waters.
5. Paint containers, lids, brushes, or other debris will not be allowed to enter state waters.
6. Paint pails will contain a maximum of two (2) gallons of paint.

If a containment structure is utilized to contain the blast material, and the structure is removed upon completion of the abrasive blasting operation, a drip tarp or similar type of under-containment should be installed before application of the paint to prevent spillage into the water body below the bridge.

7-5 References

Herrera. 1991. Vactor truck operations and disposal practices. Prepared by Herrera Environmental Consultants, Inc. for Washington Department of Ecology, Stormwater Unit. August 15, 1991.

Serdar, D. 1992. First progress report on survey of contaminants in vactor truck wastes: results of July 1991 sampling. Prepared for Helen Pressley, Washington Department of Ecology Water Quality Program.

P3:HRM7